

**Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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FEDERAL COMMUNICATIONS COMMISSION  
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In the Matter of )  
 )  
Amendment of Parts 1, 21 and 74 )  
to enable Multipoint Distribution )  
Service and Instructional Television )  
Fixed Service Licensees to Engage )  
in Fixed Two-Way Transmissions )

MM Docket No. 97-217

File No. RM-9060

To: The Commission

**JOINT COMMENTS**

Schwartz, Woods and Miller, on behalf of the Instructional Television Fixed Service entities listed in Attachment A, files these Joint Comments in the above-referenced Notice of Proposed Rulemaking ("Notice") concerning two-way communications services in the Multipoint Distribution Service ("MDS") and the Instructional Television Fixed Service ("ITFS"). In support thereof, the following is shown:

**A. BACKGROUND**

1. The parties to these Joint Comments ("Commenters") include a broad spectrum of ITFS entities. Some have held licenses for over 20 years and operate widespread networks based on traditional design considerations including hundreds of receive sites. Others are licensed holders which have excess capacity leasing agreements with "wireless cable" entrepreneurs and which are still pursuing construction and activation of sites. Some have participated in the conversion of analog television systems to digital television systems.

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2. On May 14, 1997, the Commenters filed Joint Comments in response to a public notice regarding the Petition for Rulemaking, which was the genesis of this proceeding, filed by the Wireless Cable Association International, Inc. The Commenters urged the Commission to issue a Notice of Proposed Rulemaking, aimed at encouragement of flexible wireless cable service and protection of incumbent ITFS operations.

3. This proceeding is of enormous importance to the future of ITFS. The technical and programmatic issues presented by this rulemaking have far-reaching implications for ITFS operation. The proposals reflect the Commission's determination to pursue the principle, advanced by the wireless cable industry, that two-way operations are important, if not essential, to establishing a viable, competitive wireless cable service. Extensive use of ITFS for two-way services in various technical configurations, to date approved on a case-by-case basis in only limited circumstances, may be incompatible with conventional video service. Further, various proposals may directly affect ITFS licensees' programming obligations and their flexibility in negotiating arrangements with wireless cable operators.

4. In its Notice, par. 2, the Commission acknowledged that its goals in this proceeding "are to facilitate the most efficient use of affected spectrum, to enhance the competitiveness of the wireless cable industry, and to provide benefits to the educational community through the use of two-way services, such as high speed Internet service." The Commenters share these Commission goals, so long as a substantial portion of spectrum continues to be readily available for educational purposes and the Commission affords sufficient safeguards to ITFS interests in programming and licensee control areas.

**B. TWO-WAY OPERATIONS IN MDS AND ITFS**

5. Preliminarily, the Commenters strongly believe that the Commission generally should not process applications proposing two-way operation based on theoretical calculations during the pendency of this rule making proceeding, even if the licenses are conditioned on non-interference to incumbents. This is because the proposed system changes are so substantial and there is little field experience with the types of systems envisioned. To date, no field studies have been done to study the effects of the narrowband or "super-channel" transmission systems on existing analog ITFS operations. It is not at all clear how a system with many overlapping return paths, on the same or adjacent frequencies, returning to many hubs, will perform. Instead, the Commission generally should only allow developmental or temporary operating authority for multiple-site and cellular systems during the pendency of this rule making proceeding, conditioned strictly on non-interference to incumbents. All such two-way applications processed prior to the effective date of rules should either be universally supported by all adjacent-channel and co-channel interests or alternatively supported by comprehensive technical showings reviewed and approved by Commission staff.

6. As proposed in this proceeding, wireless cable operators would be permitted to combine or divide MDS and ITFS channels into "subchannels" and "superchannels" and would be permitted highly directionalized operations using "sectorized" antennas. As a result, the one-way operations now associated with wireless cable systems would be converted into something more like a cellular or personal communications service network, but not for mobile communications service. The "upstream" communications capability

would then permit the wireless cable system to offer private network telecommunications or telephone service, or conventional or high-speed two-way Internet access services.

7. The Commenters are concerned that these operations, especially from upstream transmissions, will cause interference, both adjacent and co-channel, to existing ITFS receive sites, utilizing existing interference protection rules. The Commission should permit such uses only in a manner designed to avoid interference to ITFS receive sites and overload of ITFS downconverters by response transmitters. The Commission should require prompt correction of all interference to authorized ITFS operations.

8. Digitization of the 2.5 GHz band offers the prospect of multiple video/audio program tracks on a given ITFS channel as well as a variety of video, voice and data transmissions. The Commenters believe that, unless a substantial portion of channel capacity remains readily available for educational purposes, ITFS cannot become or remain a useful service in the view of its educational constituents. Such digitization will make additional capacity available that may not be needed by ITFS licensees. The Commenters believe that MDS operators should be permitted to use and to make payments to ITFS licensees for the use of this added capacity, under an appropriate excess capacity lease agreement.

9. The Commenters submit that, in any digitized ITFS/MDS system, the ITFS entity should be required to deliver no less instructional programming than is currently required for analog ITFS systems under Section 74.931(e) of the rules. Moreover, in any digitized ITFS/MDS system, the ITFS entity should be required to retain no less than 25% of the total ITFS spectrum capacity for programming and for recapture purposes.

10. The Commenters agree with the Commission's observation that (Notice, par 6)

In addition to the competitive benefits to the MDS industry, and the resulting benefit to consumers because of a larger number of choices, increased two-way capacity over the frequencies at issue will benefit educational institutions by, for example, increasing Internet access via ITFS frequencies and enhancing the value of their spectrum. Such increased Internet abilities will help to further the goal of providing fast, reliable and affordable Internet access to every student in the country.

The Commenters believe that ITFS operators, independently or in cooperation with MDS operators, can provide educational users with the most readily accessible and least costly high-speed Internet access.

11. Furthermore, the Commenters believe that the application of two-way interactivity will enhance the effectiveness of ITFS services and will assist ITFS licensees to gain broader acceptance for ITFS as an effective distance learning delivery system. Indeed, ITFS licensees should be able to employ all new technologies that are developed for use in MDS, including two-way communications and Internet access. The value of the ITFS educational services will be enhanced and become more attractive to potential users if all of the technological processes, devices, systems and applications that are features of the MDS service (including addressability and program encryption) are also accessible to ITFS licensees.

12. The Commenters urge the Commission to reaffirm that, under any rules adopted in this proceeding, all affected ITFS licensees are entitled to absolute protection against interference to their ITFS operations. This guarantee should be made whether or not an ITFS licensee has objected to a given proposal or whether or not the ITFS licensee is a participant in an excess capacity agreement.

C. PROPOSALS AND ISSUES SPECIFIC TO ITFS

1. ITFS Programming Requirements.

13. The Commission has properly stressed "the primary educational purpose of ITFS and the importance of maintaining sufficient capacity for programming by ITFS licensees which fulfills that purpose." (Notice, par. 66). The Commenters believe that the Commission's mandate for a minimum of 20 hours of ITFS programming and a 20-hour recapture time requirement should remain unchanged. The Commenters also believe that the channel loading rules have been useful and should be continued. These provisions afford ample flexibility by ITFS licensees and MDS lessees. With the proposed added flexibility provided by the shifting of required programming onto other channels within a wireless cable system, the Commission's ITFS programming standards would offer a variety of means by which wireless cable operators could devise creative MDS operations without harming ITFS services.

14. The Commenters also believe that the Commission should permit uses other than video transmission to meet an ITFS licensee's basic obligation to use the ITFS channels for instructional and educational purposes. Those uses should include data and/or voice transmission, measured by the total amount of system capacity devoted to such purposes.

2. Shift of ITFS Programming Onto Other Channels in the Wireless Cable System

15. The Commenters support the Commission's proposals permitting the shift of ITFS programming to other channels in the wireless cable system, while retaining minimum ITFS programming requirements. Such changes would afford additional flexibility to ITFS

licensees while also preserving the reservation of spectrum for downstream transmission of ITFS programming.

16. In its May 14, 1997 Joint Comments, the Commenters urged the Commission to facilitate the "trading" of channels between the ITFS and MDS bands. Under that proposal, the Commission would require that, wherever such an exchange is authorized, reimbursement of all costs of channel changes by the ITFS entity should be required. Such ITFS channel swaps would include swaps between ITFS channels and also between ITFS and MDS channels. In this way, a reimbursed exchange of ITFS channels either for other ITFS channels and MDS channels would permit traditional operations to be moved to channels with less potential for interference. While the Commission has correctly confirmed that forced or involuntary participation in digitized operations would not be required (Notice, par. 81), the adoption of the proposal for ITFS channel swaps would offer additional and permissible flexibility for both ITFS licensees and wireless cable operators.

17. The Commenters believe that the more restrictive proposal of the Catholic Television Network would not serve the interests of ITFS licensees generally. Absent evidence generated by operation of two-way systems, the "refarming" and reallocation of channels proposed by CTN seems unnecessary at this time.

### 3. Autonomy of ITFS Licensees and Agency Role

18. The Commenters agree with the Commission that safeguards are essential to protect the rights of incumbent ITFS licensees and to avoid diminution of the spectrum capacity available for instructional services. ITFS licensees must maintain independent control of their ITFS facilities irrespective of participation in the cellularized system. This includes freedom from coercion by other licensees or wireless cable operators. Moreover,

with the increasing technical sophistication of wireless carrier operations and proposals, it is becoming more difficult for ITFS operators to be able to comprehend the nature and implications of such systems, especially where these ITFS licensees do not have the resources to do the requisite and complex technical studies. It is also true that the financial autonomy of ITFS licensees may be impaired by the proposed two-way proposals. The Commenters agree that the costs of equipment in a cellularized system may render the ITFS licensee unduly dependent upon the wireless cable operator.

19. These concerns become heightened where the wireless cable operator is unsuccessful in its two-way commercial enterprise and the ITFS licensee is left with ITFS channels converted to two-way use and/or ITFS programming shifted to other channels in the wireless cable system. In order to avoid such situations and preserve ITFS operations, the Commenters urge the Commission to require that in all contracts between wireless cable and ITFS entities, the following provisions should be required:

- a. That the transmission system (leases, transmitters, antennae, encryption systems, receive site equipment, etc.) automatically reverts to ownership and control of the ITFS entity without charge or for \$1; and
- b. That a fund be provided by escrow or performance bond of sufficient assets to cover the expenses necessary to restore and/or maintain educational operation (whether in traditional or cellular mode) for a period of five years.

20. Moreover, the Commission should continue to require the filing of excess capacity lease agreements, to be reviewed by the staff for overly restrictive provisions affecting ITFS licensee rights and obligations. Such review appears even more essential where the ITFS licensee and wireless cable operator are represented by the same engineering and/or legal counsel. Furthermore, the Commenters reiterate their support for the proposal, advanced in their May 14, 1997 Joint Comments and discussed by the Commission in its Notice, par. 87, that such agreements should



be amended to make clear that the wireless cable lessee and the ITFS licensee have together considered the rule changes adopted and made any appropriate changes to lease terms, prior to the commencement of commercial operations on the frequencies using cellularization, sectorization or differing channelization plans.

21. The Commenters submit that it is essential that ITFS licensees should retain ultimate ITFS control of ITFS licenses and bandwidth already allocated and licensed to ITFS, including facilities used for primary transmitters, boosters and response station. All modifications to ITFS licenses should, to the extent practicable, be filed with the Commission by the ITFS entity. Likewise, the ITFS entity must at all times preserve ultimate legal control over broadcast and content of the specified bandwidth, and over all modifications involving ITFS facilities and/or bandwidth licensed and allocated to ITFS (primary transmitters, repeaters, boosters, hubs, talkback channels, response stations, etc.) for use in a system involving two-way transmissions. The Commission has also properly voiced concerns that ITFS licensees, especially small entities, might not have adequate time or resources to evaluate service plans and the consequences for them. The Commenters support Commission proposals that would require notification of affected parties regarding agreements between adjoining licensees, and/or maintenance of a data base of all transmit locations maintained within two-way wireless systems. See Notice, pars. 50-51.

### Conclusion

22. The Commenters applaud the Commission's efforts to encourage development of a wireless cable industry which can provide needed digital service to the public while enhancing the prospects for expanded ITFS service. They are also vitally concerned that any changes in technical rules to include digital and two-way cellular operations should

protect the interests of ITFS licensees providing traditional ITFS service through proven and relatively inexpensive analog transmission technology.<sup>1</sup>

Respectfully submitted,

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<sup>1</sup>See in this connection, the Comments of the Corporation for Public Broadcasting, Association of America's Public Television Stations and Public Broadcasting Service, which "endorse" these Joint Comments by clients of Schwartz, Woods and Miller, since they "propose sensible rationales for protecting ITFS licensees."

## **ATTACHMENT A**

Arizona Board of Regents for Arizona State University  
Tempe, AZ

Board of Trustees of Community-Technical Colleges (Connecticut)  
Bozrah/Farmington/Seymour, CT

California State University-Fullerton  
Fullerton, CA

California State University-Northridge  
Northridge, CA

Catholic Diocese of Youngstown  
Youngstown/Salem, OH

Connecticut Public Broadcasting, Inc.  
Facilities throughout the State of Connecticut

Dutchess Community College  
Poughkeepsie, NY

Educational Television Association of Metropolitan Cleveland  
Cleveland, OH

Hartnell College  
Salinas, CA

Louisiana Educational Television Authority  
Facilities throughout the State of Louisiana

Milwaukee Area Technical College District Board  
Milwaukee, WI

Mississippi Authority for Educational Television  
Statewide ITFS System

New Jersey Public Broadcasting Authority  
Facilities throughout the State of New Jersey

Oregon Public Broadcasting  
Portland, OR

San Jose State University  
San Jose, CA

Santa Clara County Board of Education  
Miltipas/Gilroy, CA

Sarasota County School Board  
Bradenton, FL

University of North Carolina  
Chapel Hill, NC

University of Southern California  
Los Angeles, CA

WHYY, Inc.  
Philadelphia, PA